In the claims:

The claims would be amended as follows.

1. (Currently Amended) A method ~~for adapting a general purpose query protocol~~ for use by an industrial control system, the industrial control system including a controller for providing control over an industrial process through at least one control element and at least one monitoring element each coupled to the network via a network I/O device, ~~the controller for providing control via a communication network according to an Open Systems Interconnection (OSI) type of network communication model including a transport layer, and in providing such control~~ the controller ~~communicates~~ communicating with the network I/O devices according to ~~the~~ a layered general purpose query protocol including a transport layer for communication compatible with TCP (Transmission Control Protocol), the method comprising ~~the step of~~:

the controller analyzing communication transactions related to sensor data or control commands between the controller and either the control element or the monitoring element; and

the controller ~~basing on an analysis of communication transactions between the controller and the control element or between the controller and the monitoring element to make~~ making a permanent-type connection to the network I/O device for the control element or for the monitoring element based on the analysis of the communication transactions;

wherein the permanent-type connection is a connection at the transport layer left open for later use after an earlier use ~~thereby specializing the general purpose query protocol, which would ordinarily be used in computer to computer communications for making ad hoc queries of an external device, to use by the industrial control system in performing frequent communication of~~

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~~control and monitoring information between the controller and the
control element or the monitoring element of the industrial
control system.~~

2. (Canceled) ~~The method as claimed in claim 1, wherein the
permanent-type connection is a connection, at the transport layer
of the network communication model, that is left open for later
use after an earlier use.~~

3. (Currently amended) The method as claimed in ~~claim 2~~claim 1,
~~further comprising the step of:~~

~~a) making available use of the general purpose query
protocol in which~~wherein the general purpose query protocol
allows for a single command ~~from~~by which the controller performs
both a read register and a write register instruction.

4. (Currently amended) The method as claimed in ~~claim 3~~claim 1,
wherein at the transport layer of the general purpose query
protocol communication occurs according to ~~is~~an open MODBUS/TCP
type of protocol.

5. (Currently amended) The method as claimed in ~~claim 4~~claim 1,
~~further comprising the steps of~~wherein:

~~a)~~the controller is rate-tuned ~~tuning the controller~~so as
to adjust how often to communicate with the control element or
the monitoring element; and

~~b)~~the controller is duration-tuned ~~tuning the controller~~ so
as to adjust how long to wait for the control element or the
monitoring element to respond to a query.

6. (Currently amended) The method as claimed in ~~claim 5~~claim 1,
wherein the network is an Ethernet-type network.

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7. (Currently amended) The method as claimed in ~~claim 6~~claim 1,
wherein the controller is a programmable logic controller (PLC).

8. (New) A system, comprising:

a controller of an industrial control system; and

a control element or a monitoring element of the industrial
control system;

wherein the controller and the control element or the
monitoring element are connected by a network over which
communication occurs according to a layered general purpose query
protocol including a transport layer for communication compatible
with TCP (Transmission Control Protocol);

and further wherein the controller comprises:

means for analyzing communication transactions related to
sensor data or control commands between the controller and either
the control element or the monitoring element; and

means for making a permanent-type connection at the
transport layer between the controller and the monitoring element
or the control element via a network I/O device coupling the
monitoring element or the control element to the network, wherein
the permanent-type connection is a connection at the transport
layer left open for later use after an earlier use.

9. (New) The system of claim 8, wherein the general purpose query
protocol allows for a single command by which the controller
performs both a read register and a write register instruction.

10. (New) The system of claim 8, wherein at the transport layer
of the general purpose query protocol communication occurs
according to an open MODBUS/TCP type of protocol.

11. (New) The system of claim 8, wherein:

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the controller is rate-tuned so as to adjust how often to communicate with the control element or the monitoring element; and

the controller is duration-tuned so as to adjust how long to wait for the control element or the monitoring element to respond to a query.

12. (New) The system of claim 8, wherein the network is an Ethernet-type network.

13. (New) The system of claim 8, wherein the controller is a programmable logic controller (PLC).

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